

AMENDMENTS TO THE CLAIMS

Please **AMEND** claims 19 and 27 as shown below.

The following is a complete list of all claims in this application.

18. (Previously Presented) A green carbon foam produced by heating comminuted swelling coal particles in a mold under a non-oxidizing atmosphere, the atmosphere having a pressure ranging from about 50 psi to about 500 psi, and to a temperature ranging from about 300°C to about 700°C.

19. (Currently Amended) A method for producing green carbon foam, comprising the steps of:

placing comminuted swelling coal particles in a mold; and

heating the comminuted swelling coal particles under a non-oxidizing atmosphere, the atmosphere having a pressure ranging from about 50 psi to about 500 psi, and to a temperature ranging from about 300°C to about 700°C, thereby producing green carbon foam.

20. (Cancelled)

21. (Previously Presented) A method of making green carbon foam, comprising the steps of:

placing coal particles having a free swell index ranging from about 3.5 to about 5 in a chamber;

heating the coal particles to a first temperature under a non-oxidizing atmosphere, wherein the pressure of the non-oxidizing atmosphere ranges from about 50 psi to about 500 psi; and

controlling pressure in the chamber, wherein the pressure is maintained below about 500 psi,

wherein the steps of controlling pressure and heating the coal particles produces green carbon foam.

22. (Previously Presented) The method of claim 21, wherein the first temperature is a temperature ranging from about 300°C to about 700°C.

23. (Cancelled)

24. (Previously Presented) The method of claim 21, further comprising the step of calcining the carbon foam by heating the carbon foam to a temperature ranging from about 800°C to about 1200°C to produce calcined carbon foam.

25. (Previously Presented) The method of claim 21, further comprising the step of graphitizing the carbon foam by heating the carbon foam to a temperature ranging from about 1700°C to about 3000°C to produce graphitized carbon foam.

26. (Previously Presented) The method of claim 21, wherein the coal particles have a size less than about one-fourth of an inch.

27. (Currently Amended) A method of making green carbon ~~green~~ foam, comprising the steps of:

placing swelling bituminous coal particles in a mold;

heating the swelling bituminous coal particles under a non-oxidizing atmosphere to a first temperature; and

controlling pressure of the non-oxidizing atmosphere in the mold, wherein the pressure is maintained from about 50 psi to about 500 psi,

wherein the steps of controlling pressure and heating the bituminous coal particles produces green carbon foam.

28. (Previously Presented) The method of claim 27, wherein the first temperature is a temperature ranging from about 300°C to about 700°C.

29. (Cancelled)

30. (Previously Presented) The method of claim 27, further comprising the step of calcining the carbon foam by heating the carbon foam to a temperature ranging from about 800°C to about 1200°C to produce calcined carbon foam.

31. (Previously Presented) The method of claim 27, further comprising the step of graphitizing the carbon foam by heating the carbon foam to a temperature ranging from about 1700°C to about 3000°C to produce graphitized carbon foam.

32. (Previously Presented) The method of claim 27, wherein the coal particles have a size less than about one-fourth of an inch.

33. (Previously Presented) Carbon foam, comprising:
an open-celled structure produced by heating swelling bituminous coal particles in a mold above about 300°C, under a non-oxidizing atmosphere, the non-oxidizing atmosphere having a pressure ranging from about 50 psi to about 500 psi, wherein the carbon foam has a density ranging from about 0.1 to about 0.6 g/cm³.

34. (Previously Presented) The carbon foam of claim 33 wherein the carbon foam has a thermal conductivity below about 1 W/m °K.

35. (Previously Presented) The carbon foam of claim 33 wherein the carbon foam exhibits pore sizes below about 500 µm.

36. (Previously Presented) Carbon foam, comprising:
an open-celled structure produced by heating coal particles having a free swell index between about 3.5 and about 5 in a mold above about 300°C, under a non-oxidizing atmosphere, the non-oxidizing atmosphere having a pressure ranging from about 50 psi to about 500 psi, wherein the carbon foam has a density ranging from about 0.1 to about 0.6 g/cm³.

37. (Previously Presented) The carbon foam of claim 36 wherein the carbon foam has a thermal conductivity below about 1 W/m °K.

38. (Previously Presented) The carbon foam of claim 36 wherein the carbon foam exhibits pore sizes below about 500 μm .